

CLAIMS

WHAT IS CLAIMED IS:

1. A filter frame comprising:
 - a panel including a plurality of V-shaped elements disposed on a first side of the panel;
 - each V-shaped element including a pair of slots;
 - the slots each configured to receive and orient a filter element; and
 - a portion of the panel disposed between each adjacent pair of V-shaped elements having an opening formed therein to define a handle for carrying the filters.
2. The filter frame as recited in claim 1, wherein a rib is disposed on the first side of the panel between the slots of each V-shaped element extending along a line passing through a vertex of the V-shaped element and normal to a base of the panel for reinforcing the panel.
3. The filter frame as recited in claim 1, wherein a rail is disposed on a second side of the panel at a base thereof having an extent greater than the base.
4. The filter frame as recited in claim 3, wherein a connector is disposed at each end of the rail extending toward the first side of the panel.
5. The filter frame as recited in claim 1, wherein each slot is defined by a plurality of flanges extending from the first side of the panel.

6. The filter frame as recited in claim 1, wherein the slots of each V-shaped element are disposed at a relative angle of less than one hundred eighty degrees.
7. The filter frame as recited in claim 1, wherein the handle further includes a support element normal to the panel and extending toward the first side of the panel between the V-shaped elements.
8. The filter frame as recited in claim 1, wherein the handle further includes a support element normal to the panel and extending toward the second side of the panel between the V-shaped elements.
9. The filter frame as recited in claim 1, wherein the slots of each V-shaped element are configured to define a continuous channel.
10. The filter frame as recited in claim 1, wherein each slot of each V-shaped element is defined by four flanges extending from the first side of the panel configured as an enclosed area.

11. A filter frame comprising:
 - a generally W-shaped panel including a pair of V-shaped elements disposed on a first side of the panel;
 - each V-shaped element including a pair of slots configured to receive and orient a pair of filters elements; and
 - a portion the panel extending between adjacent V-shaped elements having an opening formed therein which defines a handle for carrying the filters.
12. The filter frame as recited in claim 11, wherein a rib is disposed on the first side of the panel between the slots of each V-shaped element extending along a line passing through a vertex of the V-shaped element and normal to a base of the panel for reinforcing the panel.
13. The filter frame as recited in claim 11, wherein a rail is disposed on a second side of the panel at a base thereof having an extent greater than the base.
14. The filter frame as recited in claim 13, wherein a connector is disposed at each end of the rail extending toward the first side of the panel.
15. The filter frame as recited in claim 11, wherein each slot is defined by a plurality of flanges extending from the first side of the panel.

16. The filter frame as recited in claim 11, wherein the slots of each V-shaped element are disposed at a relative angle of less than one hundred eighty degrees.
17. The filter frame as recited in claim 11, wherein the handle further includes a support element normal to the panel and extending toward the first side of the panel between the V-shaped elements.
18. The filter frame as recited in claim 11, wherein the handle further includes a support element normal to the panel and extending toward the second side of the panel between the V-shaped elements.
19. The filter frame as recited in claim 11, wherein the slots of each V-shaped element are configured to define a continuous channel.
20. The filter frame as recited in claim 11, wherein each slot of each V-shaped element is defined by four flanges extending from the first side of the panel configured as an enclosed area.

21. A filter assembly comprising:

a pair of filter frames engaging opposite ends of a plurality of filter elements;

each filter frame comprising a panel including a plurality of V-shaped elements disposed on a first side of the panel; each V-shaped element including a pair of slots; the slots each configured to receive and orient one end of one of the filter elements; and a portion of the panel disposed between each adjacent pair of V-shaped elements having an opening formed therein to define a handle for carrying the filter assembly; and

a pair of elongated members for spacing and interconnecting the filter frames.

22. The filter assembly as recited in claim 21, wherein a rib is disposed on the first side of the panel between the slots of each V-shaped element extending along a line passing through a vertex of the V-shaped element and normal to a base of the panel for reinforcing the panel.
23. The filter assembly as recited in claim 21, wherein a rail is disposed on a second side of the panel at a base thereof having an extent greater than the base.
24. The filter assembly as recited in claim 23, wherein a connector is disposed at each end of the rail extending toward the first side of the panel for engaging one of the bars.

25. The filter assembly as recited in claim 21, wherein each slot is defined by a plurality of flanges extending from the first side of the panel.
26. The filter assembly as recited in claim 21, wherein the slots of each V-shaped element are disposed at a relative angle of less than one hundred eighty degrees.
27. The filter assembly as recited in claim 21, wherein the handle further includes a support element normal to the panel and extending toward the first side of the panel between the V-shaped elements.
28. The filter frame as recited in claim 21, wherein the handle further includes a support element normal to the panel and extending toward the second side of the panel between the V-shaped elements.
29. The filter assembly as recited in claim 21, wherein the slots of each V-shaped element are configured to define a continuous channel.
30. The filter assembly as recited in claim 21, wherein the filter elements each include a filter media connected to a frame.
31. The filter frame as recited in claim 21, wherein each slot of each V-shaped element is defined by four flanges extending from the first side of the panel configured as an enclosed area.